

REMARKS

Favorable reconsideration of this application is respectfully requested.

The specification is amended to address the objections noted in paragraph 1 of the Office Action.

The original Abstract was believed to be on a separate original page 40, but to clarify any issues a replacement Abstract is submitted herewith on a separate sheet.

Claims 1-3, 5-7, 9, 10, and 12-33 are pending in this application. Claims 4, 8, and 11 are canceled by the present response without prejudice and new claims 31-33 are presented. No new matter is believed to be added as new claims 31-33 are believed to be fully supported for example by original claims 9, 10, and 12. The claim amendments are also fully supported by the original specification, see for example original claims 4 and 11.

Claims 1, 9, 10, and 12 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Pub. 2002/0043523 to Fujita et al. (herein "Fujita") in view of U.S. patent 6,847,795 to Hirose et al. (herein "Hirose"). Claims 2, 13-15, and 18 were rejected under 35 U.S.C. § 103(a) as unpatentable over Fujita in view of U.S. Pub. 2003/0099479 to Nakafuji et al. (herein "Nakafuji"). Claims 4, 5, and 6 were rejected under 35 U.S.C. § 103(a) as unpatentable over Fujita in view of Hirose as applied to claim 1, and further in view of Nakafuji. Claims 7 and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over Fujita in view of Hirose as applied to claim 1, and further in view of U.S. patent 5,561,499 to Setoriyama. Claim 11 was rejected under 35 U.S.C. § 103(a) as unpatentable over Fujita in view of Hirose as applied to claim 1, and further in view of U.S. patent 4,574,188 to Midgley et al. (herein "Midgley"). Claims 16 and 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Fujita in view of Hirose as applied to claim 2, and further in view of Setoriyama. Claims 19 and 21 were rejected under 35 U.S.C. § 103(a) as unpatentable over Fujita in view of Nakafuji as applied to claim 1, and further in view of Hirose. Claim 20 was

rejected under 35 U.S.C. § 103(a) as unpatentable over Fujita in view of Nakafuji as applied to claim 2, and further in view of Midgley.

Claims 3 and 22-30 are allowed.

Initially, Applicants gratefully acknowledge the early indication of the allowance of claims 3 and 22-30.

Addressing now each of the above-noted prior art rejections, those rejections are traversed by the present response.

Independent claim 1 now further recites “an insulation member disposed between said fixing unit and said secondary power supply” and “a wire of AWG 14 or thicker is used for connecting said secondary power supply and the heaters”. That subject matter is supported, for example, by original dependent claims 4 and 11, and see also the insulation members 703 and 713 in the present specification. Independent claim 2 is similarly amended as independent claim 1.

With respect to independent claims 1 and 2, and the claims dependent therefrom, those claims are believed to clearly distinguish over the applied art.

First, the outstanding Office Action cites Midgley to disclose a wire with a size of 18 AWG at column 9, lines 39-44.¹

In reply, applicants note Midgley discloses that a heating electrode can have a pair of 18 AWG tin-coated copper stranded wire electrodes embedded in a strip of PTC conductive polymer. Midgley does not disclose or suggest that a wire used for connecting secondary power supply and heaters would be a wire of AWG 14 or thicker.

Further, with respect to the claimed “insulation member” the outstanding Office Action cites Nakafuji at paragraphs [0040] - [0041].² In reply, applicants note that disclosure in Nakafuji is not directed to an “insulation member disposed between said fixing unit and

¹ Office Action of August 10, 2006, page 6, prenumbered paragraph 11.

² Office Action of August 10, 2006, page 5, prenumbered paragraph 7.

said secondary power supply”. Instead the disclosure in Nakafuji is directed to an insulating member that can hermetically close a storage and discharge circuit. Thus, the feature of the “insulation member” is believed to also distinguish over the applied art.

The claims also recite a specific physical location of the “secondary power supply”, which is also believed to distinguish over the applied art. For example, independent claim 1 recites the “secondary power supply is disposed below and in the neighborhood of said fixing unit.” The other independent claims recite a similar feature. That feature also distinguishes over the applied art.

With respect to the above-noted features the outstanding Office Action relies on Hirose to disclose a specific location of a secondary power supply. However, in that respect applicants note that what is disclosed in Hirose is a location of power supplies for a high voltage and low voltage, instead of a primary and secondary power supply.

The specified location of the secondary power supply allows realizing beneficial effects such as reduction of power loss, space saving, and extension of a secondary power supply’s life. For example as discussed in the present specification “[i]f the wire is made short in order to reduce heat generation and power loss caused by a great current, the high-capacity capacitor and the fixing unit need to be disposed relatively close to each other. The high-capacity capacitor may be degraded due to the heat generated by the fixing unit, and as a result, the durability of the image forming apparatus may be degraded”.³

The present invention can address such recognized drawbacks in the background art. As discussed for example in the present specification at page 12, lines 4-13:

In the case of an image forming apparatus according to the present invention, since the secondary power supply is disposed at a position at which the heat generated for the fixing unit does not affect the secondary power supply much, the capacitor configuring the secondary power supply is prevented from being heated to an excessive temperature by the heat.

³ See the present specification at page 8, line 20 to page 10, line 1.

Because the secondary power supply is disposed close to the fixing unit, the wire can be made short, and the wiring becomes easy. At the same time, the electric power loss caused by the wire can be reduced.

Thereby, the specifics of the positioning of the secondary power supply provides benefits not realized by any of the applied art, and the applied art does not disclose the specifically recited positioning of the secondary power supply.

For such further reasons independent claims 1 and 2, and the claims dependent therefrom, distinguish over the applied art.

With respect to allowable independent claim 3, claim 3 is amended to make clarifications therein, but is still believed to be allowable.

Applicants respectfully submit the specific features recited in now amended independent claim 7 also distinguish over the applied art.

Claim 7 is amended by the present response to be rewritten in independent form and to recite "wherein one of the first connection terminal and the second connection terminal are male and the other is female". Independent claim 7 also recites specific locations of a first connection terminal and a second connection terminal, and particularly recites "a second connection terminal provided on the secondary power supply". Those features are also believed to distinguish over the applied art.

Moreover, no teachings in any of the further cited references are believed to cure the above-noted deficiencies in the applied art.

In view of the present response, applicants respectfully submit the claims as written distinguish over the applied art.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

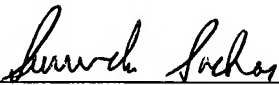
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